

Amendments to the Specification:

Please insert the following new paragraph at page 1 before "Field of the Invention":

-- Cross Reference To Related Applications

This application is a continuation (and claims the benefit of priority under 35 USC 120) of U.S. application serial no. 10/469,336, filed August 27, 2003, which claims benefit under 35 U.S.C. §119(a) of International Application No. PCT/EP02/02113 having an International Filing Date of February 27, 2002, which claims benefit of EP 011 04 875.8 filed on February 28, 2001.

Please replace the paragraph beginning at page 1, line 13 as with the following amended paragraph:

Distributed computer networks that execute business applications support business organizations. Situations that are critical and important for the organization can occur at any time inside or outside the organization. Often, the situations are unexpected. The applications generate alerts to inform one or more users about the situation, for example: A customer relation management (CRM) application reports that a key customer terminates a contract. A production planning application reports delivery problems for an important order. A business analysis application detects a decline in revenue. A computer system monitor points out insufficiency of resources and informs about an expected memory overflow. For alert systems, the following references are useful: United States Patents 6,185,603 to Henderson et al., 6,157,941 to Verkler et al., 5,748,884 to Royce et al., 5,786,755 to Cicchino et al., 5,754,111 to Garcia, 5,548,753 to Linstead et al.

Please insert the following new paragraphs after the paragraph ending at page 1, line 28:

Further: GEISSBÜHLER A ET AL: "Design of a general clinical notification system based on the publish-subscribe paradigm" 1997 Amia Annual Fall Symposium. A Conference Of The American Medical Informatics Association. Proceedings, Proceedings Of 1997 Amia Annual Fall Symposium The Emergence Of Internetable Health Care Systems That Really

Work, Nashville, TN, USA, 25-29 October 1997, pages 126-130, XP002179981 1997, Philadelphia, PA, USA, Hanley & Belfus, USA.

Further: J. BREED ET AL.: "The Spacecraft Emergency Response System (SERS) For Autonomous Mission Operations" 3RD INTERNATIONAL SYMPOSIUM ON REDUCING THE COST OF SPACECRAFT GROUND SYSTEMS AND OPERATIONS, [Online] March 1999 (1999-03), pages 1-8.

Geissbühler et al. discusses a publish-subscribe paradigm as a mechanism providing a framework for the exchange of data between independent applications in an event-driven manner. The paradigm is used in the context of a clinical notification system. Escalation is incorporated.

Royce et al. as well as Breed et al. discuss event-based notification systems arranged to support escalation procedures.

Business applications can be configured to provide electronic notifications to a single recipient or to a group of recipients (cf. Linstead et al.). There is a technical problem relating to the configuration of the business application notification system to select a specific target group that receives alert notifications from a particular business application.

Please replace the paragraph beginning at page 2, line 19 with the following amended paragraph:

FIG. 6 illustrates assignment tables for providing a message distribution list ~~in a further embodiment of~~ according to the present invention; and

Please replace the paragraph beginning at page 2, line 26 with the following amended paragraph:

In a computer system (999), peripheral computers (901/902) with business applications (201/202) send alert messages (211/212) to a central computer (900), for example, when a current variable exceeds a reference value. The central computer implements an alert server to notify (301) a target group of users (1, 2, 3) via communication devices (903, 904, 905). The

central computer escalates further notifications (321) to a supervisor user (4) in the event that during a predetermined time period no user of the group has confirmed reception. The notifications (301, 321) have predefined fixed and variable text portions that relate to the alert type. Preferably, ~~the~~ The group of users to be notified is determined by subscription and a role-to-application assignment.

Please replace the paragraph beginning at page 8, line 6 with the following amended paragraph:

Computer system 999 ~~is characterized in that~~ with central computer 900, after having forwarded notification message 301, issues further notification message 321 (cf. FIG. 5) to a further user (e.g., user 4) outside the group in the event that during a predetermined time period (cf. FIG. 3, T) no user of the group has confirmed reception of notification message 301 (case (2)).

Please replace the paragraph beginning at page 8, line 13 with the following amended paragraph:

~~Preferably, the~~ Original and further users are listed in message distribution list 140 (illustrated in computer 900). The inclusion of users to list 140 (or exclusion) according to a ~~preferred embodiment of~~ the present invention is discussed below in connection with tables 110, 120, and 130 and FIG. 6.

Please replace the paragraph beginning at page 11, line 19 with the following amended paragraph:

In method 400, further ~~optional~~ steps 401, 402 and 403 allow the management of the message distribution list (cf. 140 in FIG. 7) by computer 900. Preferably, steps 401, 402 and 403 are executed prior to steps 410-460. This is convenient, but not essential, updating the list is possible. In deriving user group step 401, the group of users is derived from a role-to-user assignment and from an application-to-role assignment (details in FIG. 6), wherein the

assignments define the business application that each user is allowed to access. In storing representations step 402, representations of the group of users are stored in the message distribution list (cf. 140 in FIG. 7). In receive subscription requests step 403, the list is modified.

Please replace the paragraph beginning at page 13, line 21 with the following amended paragraph:

The above explanation assumed that the group of users to be notified (e.g., original users 1, 2, 3, further user 4) is predetermined. It is possible that all users of system 999 (computers 901, 902, 903) are notified. But it is desired to keep the overall number of users in the message distribution list small. In other words, the list should comprise only these users for that alert information is relevant. The distribution list can optionally distinguish between original and further users; but for convenience, the following explanation does not distinguish original and further users. Computer 900 creates the distribution list after receiving alert message 211/212 (dynamic creation in real-time), or before (static creation). Details are explained in connection with FIG. 3, steps 401-403, and FIGS. 6-7. The present invention thereby takes advantage of existing user-to-role and role-to-application assignments. Computer 900 combines the existing assignments with the alert scheme described above. Optionally, the distribution list is provided according to one or more of the following approaches:

- (1) Application 201/202 determines the users, for example, by evaluating an organizational structure that is part of the application, or by reading from a customized distribution list. In this case, application 201/202 includes its own distribution list into alert message 211/212.
- ~~(2) Computer 900 creates the distribution list after receiving alert message 211/212 (dynamic creation in real-time), or before (static creation). Details are explained in connection with FIG. 3, steps 401-403, and FIGS. 6-7. The present invention thereby takes advantage of existing user-to-role and role-to-application assignments. Computer 900 combines the existing assignments with the alert scheme described above.~~

[[ (3) ] ] (2) Users are invited to subscribe or to un-subscribe to alert notifications. In combination with ~~approach (2)~~ creating the distribution list, the users can modify the distribution list (set as default list). An example is explained in connection with FIG. 7.

Please replace the paragraph beginning at page 14, line 17 with the following amended paragraph:

FIG. 6 illustrates assignment tables 110, 120, 130 for providing the message distribution list (140, cf. FIG. 3) ~~in a further embodiment~~ of the present invention. FIG. 7 illustrates message distribution list 140 with more detail.

Please replace the paragraph beginning at page 16, line 31 with the following amended paragraph:

~~Preferably~~, CPP 100 causes processor 910 to derive 401 the group of users from a role-to-user assignment and from an application-to-role assignment. Preferably, CPP 100 causes processor 910 to store 402 representations of the group of users in message distribution list 140 and to receive 403 subscription requests to alert notification messages from the users of the group. Again, as mentioned above, CPP 100 can be embodied in signal 980 and on carrier 970.

Please delete the paragraph beginning at page 17, line 6, which starts with "In other words".

Please replace the abstract at page 24 with the following amended abstract:

In a computer system [[ (999) ] ], peripheral computers ~~(901/902)~~ with business applications ~~(201/202)~~ send alert messages ~~(211/212)~~ to a central computer [[ (900) ] ] when a current variable exceeds a reference value. The central computer implements an alert server to notify [[ (301) ] ] a target group of multiple users ~~(1, 2, 3)~~ via communication devices ~~(903, 904, 905)~~. The central computer escalates further notification [[ (321) ] ] to a supervisor user [[ (4) ] ] in the event that during a predetermined time period no user of the group has confirmed reception.

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The notifications (~~301, 321~~) have predefined fixed and variable text portion that relate to the alert type. The group of users (~~1, 2, 3~~) to be notified is determined by subscription or by a role-to-application assignment.